

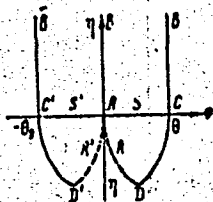
20/04

S/043/61/000/001/006/010
C111/C222

Flow around a wedge-shaped profile...

left-hand of $R(R')$ changes to the region shown in figure 2.

Fig. 2



Problem 1: In the region Ω $BC'D'ADCB$ (figure 2) find the solution $\Psi(\theta, \eta)$ of the equation

$$\Psi_{\eta\eta} + \eta \Psi_{\theta\theta} + b(\eta) \Psi_{\eta} = 0 \quad (1)$$

where $b(\eta) = \frac{d}{d\eta} \ln B(\eta)$ is known, which satisfies the following conditions:

1. $\Psi|_{\theta=0} = 0 \quad (\eta > 0);$
2. $\Psi(\theta, \eta) = -\Psi(-\theta, \eta);$

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3. $\Psi \rightarrow +\infty$ ($-\infty$) for $(\theta, \eta) \rightarrow (0, 0)$ along $S(S')$ and $R(R')$, respectively;
4. $\Psi(\theta, \eta)$ and its derivatives are finite on AD and AD' with the exception of the point A ;
5. $\Psi|_{\theta=\pm\theta_0} = 0$ ($\eta > 0$);
6. $\Psi = 0$ on CD and $C'D'$;
7. Ψ is sought as a function $2\theta_0$ -periodic in θ .

Let $\Psi(\theta, \eta) = \Psi_0(\theta, \eta) + \Psi_1(\theta, \eta)$, where $\Psi_0(\theta, \eta)$ -- solution of (1) which satisfies 1.-4. (principal term of the solution), and $\Psi_1(\theta, \eta)$ must be determined so that $\Psi_0 + \Psi_1$ is a solution of the problem 1.

According to F.I. Frankl' (Ref.1: DAN SSSR, 57, no.7, 1947) it holds

$$\Psi_0(\theta, \eta) = c \sum_{n=1}^{\infty} n^{\frac{2}{3}} \frac{\psi_{\lambda_n}(\tau)}{\psi_{\lambda_n}(\tau_s)} \sin \lambda_n \theta, \quad (2)$$

where $\lambda_n = \frac{n\pi}{\theta_0}$, $\psi_{\lambda_n}(\tau) = \tau^{\frac{\lambda_n}{2}} F(a_{\lambda_n}, b_{\lambda_n}, \lambda_n+1, \tau)$ --Chaplygin

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function. Since (2) diverges for $\eta \leq 0$ the author considers the auxiliary problem

Problem 2. Determine in Ω a solution of

$$\eta \psi_{\theta\theta} + \psi_{\eta\eta} = 0$$

which satisfies the conditions 1.-7. The solution of $\bar{\psi}_0(\theta, \eta)$ of problem 2 is given in (Ref.1). Using still the asymptotic formulas for

$$\zeta_{\lambda_n}(\eta) = \frac{\psi_{\lambda_n}(\tau)}{\psi_{\lambda_n}(\tau_s)} \text{ of S.K.Aslanov (Ref.5: PMM 21, no.2, 1957) then}$$

for the principal term of the solution of problem 1 there follows the formula

$$\psi_0(\theta, \eta) = G\left(\frac{\eta}{K}\right)^{\frac{1}{4}} \left\{ \bar{\psi}_0(\theta, \eta) + \sum_{n=1}^{\infty} o(n^{-\frac{1}{3}}) \sin \lambda_n \theta \right\} \quad (6)$$

being valid in the whole Ω .

In the subsonic region it holds the more exact formula (2).

By a better asymptotic representation of $\zeta_{\lambda_n}(\eta)$, for the supersonic

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region the author gives the more exact formula

$$\begin{aligned} \psi_0(\theta, \eta) = O\left(\frac{\eta}{K}\right)^{\frac{1}{4}} & \left\{ \bar{\psi}_0(\theta, \eta) + \frac{\sqrt{3}\theta_0}{2\pi} \left[\int_0^\eta \frac{g(\eta)}{\sqrt{-\eta}} d\eta - \right. \right. \\ & \left. \left. - 2\sqrt{-\eta}g(\eta) \right] \sum_{n=1}^{\infty} n^{-\frac{1}{3}} \left[\lambda\left(\lambda_n^{\frac{2}{3}}\eta\right) - 2\lambda_*\left(\lambda_n^{\frac{2}{3}}\eta\right) \right] \sin \lambda_n \theta + \right. \\ & \left. + \left(\frac{\theta_0}{\pi}\right)^{\frac{4}{3}} g(\eta) \sum_{n=1}^{\infty} n^{-\frac{2}{3}} \lambda_*\left(\lambda_n^{\frac{2}{3}}\eta\right) \sin \lambda_n \theta + \sum_{n=1}^{\infty} o\left(\lambda^{-\frac{4}{3}}\Lambda\left(\lambda_n^{\frac{2}{3}}\eta\right)\right) \sin \lambda_n \theta \right\}. \end{aligned} \quad (8)$$

$$\text{where } g(\eta) = -\frac{b^2(\eta)}{4} - \frac{b'(\eta)}{2}; \quad \zeta = \frac{\sqrt[3]{3}\left(\frac{2}{3}\right)}{\Gamma\left(\frac{1}{3}\right)}, \quad \Lambda(s) = \sqrt{\lambda^2(s) + \lambda_*^2(s)},$$

$\lambda_*(s)$ -- Eise-function satisfying the conditions $\lambda_*(0) = 0$, $\lambda'_*(0) = 1$;

$\lambda(s)$ -- Eise-function for which $\lambda(0) = 1$, $\lambda(+\infty) = 0$,

$$G = \frac{(x+1)^{1/6}}{(1-\tau)^{x-1}}; \quad K(\tau) = \frac{\tau - \tau_s}{\tau_s(1-\tau)^{1/\tau_s}}.$$

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$\Psi_0(\theta, \eta)$ satisfies all conditions of the problem except of condition 6.

Because of the periodicity and unevenness of $\Psi(\theta, \eta)$ it is sufficient when $\Psi_0 + \Psi_1$ satisfies "6" on CD. That leads to:

Problem 3. Find in Ω a solution $\Psi_1(\theta, \eta)$ of (1) which satisfies the conditions:

1. $\Psi_1|_{\theta=0} = 0$;
2. $\Psi_1(\theta, \eta) = -\Psi_1(-\theta, \eta)$;
3. $\Psi_1(\theta, \eta)$ is regular in Ω ;
4. $\Psi_1|_{\theta=\pm\theta_0} = 0$;
5. $\Psi_1|_{CD} = -\Psi_0|_{CD}$;
6. $\Psi_1(\theta+2\theta_0, \eta) = \Psi_1(\theta, \eta)$.

By transforming the boundary conditions from CD to DE there appears a reduction to the equivalent problem.

Problem 4: Find a solution $\Psi_1(\theta, \eta)$ of (1) in the halfstrip BFEB (figure 3)

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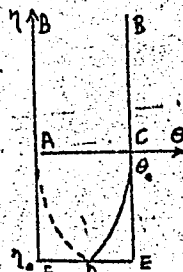


Fig. 3

which satisfies the conditions

1. $\Psi_1/\eta_{\theta=0} = \Psi_1/\eta_{\theta=\theta_0} = 0;$
2. $\Psi_1/\eta_{\theta=\theta_0} = \tau(\theta) = \begin{cases} -\Psi_0/\eta_{\theta=\theta_0}, & \frac{\theta_0}{2} < \theta < \theta_0, \\ p(\theta), & 0 < \theta < \frac{\theta_0}{2}; \end{cases}$
3. $\Psi_1/\eta_{\theta=\theta_0} = v(\theta) = \begin{cases} -\Psi_0/\eta_{\theta=\theta_0}, & \frac{\theta_0}{2} < \theta < \theta_0, \\ q(\theta), & 0 < \theta < \frac{\theta_0}{2}. \end{cases}$

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where $p(\theta)$ and $q(\theta)$ must still be determined.
The solution has the form

$$\begin{aligned} \Psi(\theta, \eta) = & \frac{2}{\theta_0} \eta'(\tau_0) \sum_{n=1}^{\infty} \sin \lambda_n \theta \frac{\psi_{\lambda_n}(\tau)}{\psi_{\lambda_n}(\tau_0)} \times \\ & \times \left[\int_0^{\frac{\theta_0}{2}} q(t) \sin \lambda_n t dt - \int_{\frac{\theta_0}{2}}^{\theta_0} \Psi_{0\eta}(t, \eta_0) \sin \lambda_n t dt \right]. \end{aligned} \quad (11)$$

Since (11) must satisfy the boundary conditions of problem 4, for $q(\theta)$ one obtains an integral equation which is solved in the first approximation and which yields

$$q(t) = q_1(\alpha) = \frac{2}{\theta_0} \sum_{k=1}^{\infty} k f_k \sin k\alpha, \quad (14)$$

where $f_k = \frac{2}{\pi} \int_0^{\pi} F_1(\beta) \sin k\beta d\beta$ and $F_1(\beta)$ is a certain known function;

it holds $|f_k| \leq \frac{\text{const}}{k^2}$.

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The author gives arrangements for the improvement of the obtained first approximation.

The author mentions F.I.Frank'l, Chaplygin, S.K.Aslanov, A.A.Dorodnitsyn and thanks the dotsent R.G.Barantsev for the leading of the work.

There are 3 figures, 6 Soviet-bloc and 2 non-Soviet-bloc references.

The reference to the English-language publication reads as follows:

Gooderley and Iosihara, Mekhanika, no.3, 1951.

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33534

S/043/62/000/001/004/009
D299/D303

16.3500

AUTHOR:

Blyumkina, I.A.

TITLE:

On solving, by Fourier's method, the boundary-value problem for the equation $u_{yy} + K(y) u_{xx} = 0$ with given conditions on the characteristic and the line of degeneration

PERIODICAL: Leningrad, Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii. no. 17 1, 1962, 111 - 115

TEXT: The solution is constructed to the boundary-value problem

$$\begin{aligned} \Delta u &= u_{yy} + K(y) u_{xx} = 0, & (1) \\ u|_{y=0} &= \tau(x), \quad x \in [0, 2\pi], & (2) \\ u|_{x=l(y)+2\pi} &= p(y), \quad y \in [-y_0, 0], & (3) \end{aligned}$$

where $l(y) = \int_0^y \sqrt{-K(y)} dy$, $K(y) < 0$ with $y < 0$, $K(0) = 0$, in the domain D, bounded by the segment $[0, 2\pi]$ of the x-axis and the charac-

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teristics $x = -1(y)$ and $x = 1(y) + 2\pi$ of Eq. (1), which intersect at the point $(\pi, -y_0)$. The solution to problem (1)-(3) is sought in the form of a series of particular solutions to Eq. (1)

$$u(x, y) = \sum_{n=1}^{\infty} [(c_{n1}B_{n2}(y) - c_{n2}B_{n1}(y))\sin nx + (d_{n1}B_{n2}(y) - d_{n2}B_{n1}(y))\cos nx], \quad (4)$$

where $B_{n1}(y)$ and $B_{n2}(y)$ are two linearly-independent solutions of the equation

$$B_n'' - n^2 K(y) B_n = 0, \quad (5)$$

satisfying certain conditions. By virtue of (2), one obtains

$$\tau(x) = \sum_{n=1}^{\infty} [c_{n1} \sin nx + d_{n1} \cos nx]$$

$$c_{n1} = \frac{1}{\pi} \int_0^{2\pi} \tau(x) \sin nx dx, \quad d_{n1} = \frac{1}{\pi} \int_0^{2\pi} \tau(x) \cos nx dx. \quad (7)$$

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Condition (3) yields the equation

$$p(y) = \sum_{n=1}^{\infty} [(c_n B_{n1}(y) - c_n B_{n1}(y)) \sin nl(y) + (d_n B_{n2}(y) - d_n B_{n2}(y)) \cos nl(y)], \quad y \in [-y_0, 0]. \quad (8)$$

for the coefficients c_{n2} and d_{n2} . First, a particular case of Eq. (1) is considered, assuming the function $K(y)$ to be an even function. It is further assumed that $p(y)$ is given by its analytic expression. By separating the even- and odd parts in Eq. (8), one obtains expressions for the sums of the series, and hence the solution

$$q(y) = -p(-y) - 2 \sum_{n=1}^{\infty} c_{n1} B_{n2}(y) \sin nl_1(y) + 2 \sum_{n=1}^{\infty} d_{n1} B_{n2}(y) \cos nl_1(y).$$

In order to determine the unknown coefficients c_{n2} and d_{n2} , one applies Green's formula to the domain D . After computations, one

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obtains the final formulas for the coefficients c_{n2} and d_{n2} , which, in conjunction with formulas (4) and (7), constitute the solution to the boundary-value problem (for the particular case under consideration). In the general case, i.e. it is not specified whether $K(y)$ is even, one considers the function $K(-y/)$, i.e. $K(y)$ is continued on the interval $[0, y_0]$ in an even way. Instead of Eq. (1), one considers equation

$$u_{yy} + K(-y/)u_{xx} = 0, \quad (14)$$

which cannot be solved in the same manner as above. However, the problem can be simplified. After computations, one obtains

$$f(y) = -p(-y) + 2 \sum_{n=1}^{\infty} c_{n1} B_{n1}(y) \sin n l_1(-y) + \\ + 2 \sum_{n=1}^{\infty} d_{n1} B_{n1}(y) \cos n l_1(-y), \quad y \in [0, y_0]. \quad (15)$$

Thus, the problem reduces to Goursat's problem for Eq. (14) with conditions (3) and (15) on the characteristics $x + \pm l(y) + 2\pi$.

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Problems of such type were solved by R.G. Barantsev (Ref. 2: Vestnik Leningr. un-ta, no. 13, 1958; no. 19, 1959; no. 1, 1960). In the case under consideration, the solution is rather cumbersome, but can be carried to the end. There are 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc (in translation).

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L 21850-66 EWT(d) IJP(c)

ACC NR: AP6006895

SOURCE CODE: UR/0043/66/000/001/0107/0119

AUTHOR: Blyumkina, I. A.

ORG: none

TITLE: On the solution of a Chaplygin type boundary value equation with given conditions of a parabolic line and characteristics

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i astronomii, no. 1, 1966, 107-119

TOPIC TAGS: partial differential equation, ordinary differential equation, hyperbolic equation, boundary value problem

ABSTRACT: The solution of the Chaplygin type equation

$$Lu \equiv u_{yy} + K(y)u_{xx} = 0$$

is investigated, subject to the boundary conditions

$$u|_{AB} = \tau(x),$$

$$u|_{BC} = p(y) = p^*(x),$$

where $\tau(x)$ and $p(y)$ are given functions. The solution is obtained by a separation

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UDC: 533.601.135

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AGC NR: AP6006895

of variables technique and is given by

$$u(x, y) = \sum_{n=1}^{\infty} [(c_{n1}B_{n2}(y) - c_{n2}B_{n1}(y))\sin nx + (d_{n1}B_{n2}(y) - d_{n2}B_{n1}(y))\cos nx].$$

The coefficients c_{n1} and d_{n1} of the above series are given immediately by

$$c_{n1} = \frac{1}{\pi} \int_0^{2\pi} \tau(x) \sin nx dx,$$

$$d_{n1} = \frac{1}{\pi} \int_0^{2\pi} \tau(x) \cos nx dx.$$

For the remaining two, c_{k2} and d_{k2} , a set of two infinite algebraic equations are obtained. It is shown that if $\tau(x)$ and $p(y)$ have piecewise continuous derivatives, and if $K(y)$ is such that the inequality

$$\frac{B_0 B_0}{R} (1 + 2N_0) \leq \frac{1}{\pi}$$

is satisfied, then the above series solution converges. The two infinite series for the coefficients c_{k2} and d_{k2} are rewritten in the form

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ACC NR: AP6006895

$$\begin{aligned} \xi_n + \sum_{h=1}^m a_{nh} \xi_h &= b_n, \\ \eta_n + \sum_{h=1}^m a_{nh} \eta_h &= b_n^* \end{aligned}$$

and their convergence conditions are analyzed in detail. Orig. art. has: 28 equations.

SUB CODE: 12/ SUBM DATE: 18Aug64/ ORIG REF: 007

Card 3/3 nst

MEL'CHINSKIY, N.A., SUKHORUKOVA, L.N., ZEVELEVA, Z.A., KOROBOVA, F.M., KADISH, F.M.
BERLIZEVA, K.F., ZLOTNIKOV, Ye.M., BLYUMKINA, M.I.,
VOLOSUNOVA, N.P. LARINA, S.P. YEVDOKIMOVA, L.N.

Professor Aleksandr Vasil'evich Savel'ev; on his 60th birthday.
Vest.oto-rin. 20 no.6:126-127 N-D '58 (MIRA 11:12)
(SAVEL'EV, ALEKSANDR VASIL'EVICH, 1898-)

BLYUMKINA, Yu. A. (Leningrad)

"Wedge Shaped and Conventional Airfoils at Sonic Speeds."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

L 34060-66 EWT(m)/T LJP(c)

ACC NR: AR6017197

SOURCE CODE: UR/0058/65/000/012/A032/A032

AUTHOR: Blyumkina, Yu. A.; Kamayev, L. A.; Rodionov, N. I.

TITLE: Multichannel device for registration of pulses from several detectors of nuclear radiation

SOURCE: Ref. zh. Fizika, Abs. 12A314

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 2. M., Atomizdat, 1965, 68-74

TOPIC TAGS: multichannel analyzer, pulse counting, digital decoder, radiation detector, nuclear radiation, pulse shaping, computer coding, circuit delay line/ LZT circuit delay line

ABSTRACT: Apparatus is described intended for simultaneous registration of pulses from several detectors of nuclear radiation. In this apparatus, pulses received from different detectors are coded with the aid of a delay line of the LZT type. The coded pulses from different channels are then amplified and discriminated by a single device which is common to the entire apparatus. This greatly reduces the number of necessary blocks of apparatus, and makes it possible to get along with a pair of connecting leads and cables. Naturally, this improves appreciably the relative accuracy of the measurements. The shaped pulses from the different channels are then decoded with the aid of similar delay lines and are registered by a multichannel counting device. The dead time of the entire apparatus relative to the common input is equal

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to the number of pickups plus ~ 1 μ sec. The schematic diagrams of individual units of the installation are presented and their interaction during the course of pulse registration is described in detail. L. S. [Translation of abstract]

SUB CODE: 20, 09

Card

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BLYUMKINA, Yu.A.

Electronic equipment for control and shielding in a fast physical
BR-1 reactor. Atom energ. 16 no.3:250-251 Mr '64. (MIRA 17:3)

ELYUMKINA, Y. A., BONDARENKO, I. I., BERYAGIN, B. N., ZAIKOVSKIY, A. S.,

ZINOV'YEV, V. P., KAZACHKOVSKIY, O. D., KRAZNOYAROV, N. V., LEIPUNSKIYA, A. I.,

MALIKH, V. A., MAZAROV, P. M., NIKOLAYEV, S. K., STAVISSKIY, Y. Y.,

UKRAINSTEV, F. I., FRANK, I. M., SHAPIRO, F. L., YAEVITSKIY, Y. S.,

BLOKHINTSEV, D. I., BLOKHIN, G. B.

"A Pulsed fast reactor."

report submitted for the IAEA seminar on the Physics of Fast and
Intermediate Reactors, Vienna, 3-11 Aug 1961.

Acad Sci. USSR Moscow

22873

S/089/61/010/005/001/015

B102/B214

21.1910 21.4210
26.2200

AUTHORS: Blokhin, G. Ye., Blokhintsev, D. I., Blyumkina, Yu. A.,
Bondarenko, I. I. Deryagin, B. N., Zaymovskiy, A. S.,
Zinov'yev, V. P., Kazachkovskiy, O. D., Kim Khen Bon,
Krasnoyarov, N. V., Leypunskiy, A. I., Malykh, V. A.
Nazarov, P. M., Nikolayev, S. K., Stavisskiy, V. Ya.,
Ukraintsev, F. I., Frank, I. M., Shapiro, F. L.,
Yazvitskiy, Yu. S.

TITLE: A pulsed fast reactor

PERIODICAL: Atomnaya energiya, v. 10, no. 5, 1961, 437-446

TEXT: The present paper gives a description of the pulsed fast reactor of the Ob'yedinenny institut yadernykh issledovaniy (Joint Institute of Nuclear Research) which became critical in June, 1960. This reactor, called MBP (IBR) reactor, serves as pulsed fast neutron source (mean power ≈ 1 kw) for physical investigations, particularly for time-of-flight experiments. Its most distinguishing feature is the very small contribution ($\sim 10^{-4}$) of the delayed neutrons in its normal operation; it is about

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one hundredth of that of the usual steady uranium reactor. The pulses appear because whenever the reactor becomes overcritical a burst of prompt neutrons results. The half width of these pulses is 36 μ sec. The frequency with which the pulses are repeated can be varied between 8 and 80 pulses/sec. Fig. 2 shows the construction of this reactor. The periodic change in the reactivity is brought about by the displacement of the two U^{235} blocks placed in two disks that can be rotated. The main block is pressed in the form of a disk, 1100 mm in diameter, and can be rotated with a peripheral velocity of 276 m/sec (at 6000 rpm) during which it passes through the core center. The reactivity change obtainable from the motion of the main block is 7.4 %, that obtainable from the motion of the auxiliary block is 0.4 %. The stationary part of the core consists of plutonium lumps in steel jackets. The reactor is started by a rough regulator, in this case a movable part of the reflector. It gives a reactivity change at the rate of $13 \cdot 10^{-5} - 1.3 \cdot 10^{-5} \text{ sec}^{-1}$. The manually operated rod is also a part of the reflector. Two plutonium rods in electromagnetic suspension serve as scram. They can be separated from the core with an acceleration of 20 g. Their separation causes a reactivity

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decrease of 2-1.1 %; the rough regulator allows a reactivity change of 2.4 %, the manual regulator 0.1 %, and the automatic regulator 0.036 %. The reactor possesses also a reactivity booster for the production of one intensive pulse. The control and shield system is an automatically functioning electronic arrangement with BF_3 counters and ionization chambers. The whole reactor is placed in a room of size 10·10·7 m whose concrete walls allow complete protection from radiation. The most important experimental arrangement consists of a 1000 m long neutron conductor, a metal tube, 400 mm in diameter in the first part and 800 mm in the second part in which a pressure of 0.1 mm Hg is maintained. This conductor connects a chain of so-called "intermediate pavilions" (at distances of 70, 250, 500, 750, and 1000 m from the reactor) in which experiments can be carried out. There is also an additional neutron conductor of 100 m length. The reactor chamber is joined to an experimental chamber in which four neutron beams of up to 800 mm diameter are available. There is such an experimental chamber also above the reactor chamber. Various experiments were carried out with the reactor and they are described in the present paper. These are experiments with stand

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assemblies and slowly moving main block for the determination of the most important parameters of the reactor; experiments with a core assembly (unmoved), experiments with rotating (5000 rpm) main block and a Ra- α -Be source in the core for the investigation of the effect of the multiplication factor, etc. The most important results are represented graphically. For example, Fig. 8 shows the dependence of the half width θ of a pulse on the reactivity; the dashed line holds for the quasistationary case, the dot-dash line for the case of $\theta = K(\tau/\alpha)^{1/3}v^{-2/3}$, where v is the velocity of motion of the (rotating) main block; in the quasistationary case $\theta = 2\sqrt{\epsilon_m/\alpha v^2}$, where ϵ_m is the reactivity at the maximal multiplication factor; $\epsilon = \epsilon_m - \alpha x^2$, where x is the displacement of the main block. The reactor has been actually used for the measurement of the total, scattering, capture, and fission cross sections by the time-of-flight method. Further experiments will be carried out with a view to obtaining increase of power and decrease of the pulse duration. There are 15 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J. Orndorf, Nucl. Sci. and Engng, 2, No. 4, 450 (1957).

Card 4/7

BLYUMKINA, Yu.A.; SEMENOVA, N.N.

Current integrator with low input resistance. Prih. 1 tekhn.
eksp. 8 no.6:112-115 N-D '63. (MIRA 17:6)

L 14932-63 EPF(n)-2/ENT(m)/BDS AFRTC/ASD/SSD Pu. 4 DM
 ACCESSION NR: AP3003980 S/0089/63/015/001/0064/0066 69
 63

AUTHORS: Blyumkina, Yu. A.; Bondarenko, I. I.; Kuznetsov, V. F.; Nesterov, V. G.;
 Okolovich, V. N.; Smirnenkin, G. N.

TITLE: Number of prompt neutrons and kinetic energy of fragments in low-energy
 fission of U sup 235 19

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 64-66

TOPIC TAGS: prompt neutron, U sup 235, kinetic energy of fission fragment, Fowler
 hypothesis

ABSTRACT: According to Fowler's hypothesis, the kinetic energy of the fission
 fragment does not depend on the excitation energy of the splitting atom, from
 which it follows that the average number of prompt neutrons (a.n.p.n.) is in-
 creasing linearly with the increase of the energy E_n of neutrons producing fission.
 For large E_n , this approximately valid, but may not be correct for low E_n . The
 present work was conducted in order to investigate the lower E_n range in greater
 detail. The data sought are important practically, and may help to clarify the
 nature of the fission channels and the mechanism which produces the distribution of
 the observed energy. U₂₃₅ was used as target; the reaction T(p, Alpha) was pro-

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ACCESSION NR: AP3003980

duced with an electrostatic generator. The correlation between E_n and a.n.p.n. is presented in three figures. The results are discussed. "The authors express their deep appreciation to A. I. Leypunskiy for attention and constant interest to work, to L. N. Usachev and V. N. Andreyev for fruitful discussion of experimental results, and gratitude to V. I. Bol'shov, L. D. Gordeyeva, and L. I. Prokhorova for help with the work and participation in various stages of measurements." Orig. art. has: 3 figures. 6

ASSOCIATION: none

SUBMITTED: 04Aug62

DATE ACQ: 08Aug63

ENCL: 00

SUB CODE: PH

NO REF SOV: 003

OTHER: 007

Card 2/2

L 20226-65 EWT(m)/EWA(h) SSD/AFWL/ASD(a)-5/ESD(gs)/ESD(t)
ACCESSION NR: AP4044681 S/0120/64/000/004/0122/0125

AUTHOR: Blyumkina, Yu. A.; Kamayeva, L. A.; Rodionov, N. I. 1/6
6

TITLE: Multichannel outfit for recording pulses from several nuclear-radiation
detectors 1/1

SOURCE: Pribery* i tekhnika eksperimenta, no. 4, 1964, 122-125

TOPIC TAGS: radiation detector, radiation detection, nuclear radiation

ABSTRACT: An outfit is based on the encoding of pulses coming from various
detectors by a special delay line. The encoded pulses are amplified and
discriminated in a single device which cuts down the amount of equipment usually
necessary in such systems and enhances the accuracy of measurement. The
encoded pulses are decoded by a similar delay line and recorded in a multichannel
counting device (see Enclosure 1). Unlike O. M. Bilaniuk's, et al., scheme
(Nucl. Instr. and Methods, 1961, 14, 63) which uses an encoding delay line

Card 1/3

L 20226-65

ACCESSION NR: AP4044681

3
with good h-f characteristics, the present scheme uses LZT lines and only one-half of the equipment between encoding and decoding units. The statistical error of the outfit is 1%. "The authors are grateful to G. N. Smirenkin and V. G. Nesterov for their fruitful cooperation and discussions in the course of the work, and are also thankful to V. V. Yermakov for his help in designing and building the outfit." Orig. art. has: 3 figures.

ASSOCIATION: none.

SUBMITTED: 23Jul63 .

ENCL: 01

SUB CODE:

NP

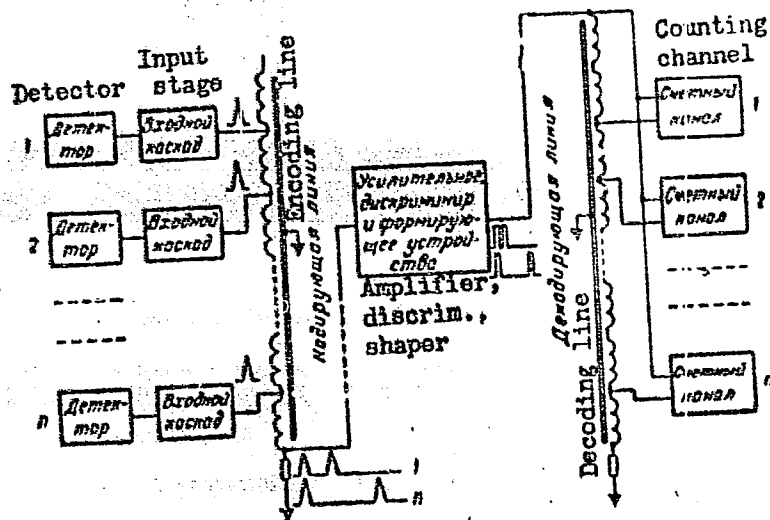
NO RLF SOV: 001

OTHER: 003

Card 2/3

L 20226-65
ACCESSION NR: AP4044681

ENCLOSURE, 01



Multichannel outfit for recording pulses from several detectors

Card 3/3

ACCESSION NR: AP4020333

S/0089/64/016/003/0250/0251

AUTHOR: Blyumkina, Yu. A.

TITLE: Electronic equipment for control and shielding of the BR-1 fast physical reactor

SOURCE: Atomnaya energiya, v. 16, no. 3, 1964, 250-251

TOPIC TAGS: BR-1 reactor, reactor, safety system, power level control, reactor control, reactor shielding, physical reactor, fast reactor

ABSTRACT: This is a study of two basic series of studies which have been conducted on zero power physical reactors: (1) determining critical sizes with various compositions of the core and reflector are determined by means of consecutive assembling of the core with an extrapolation in criticality according to inverse multiplication; and (2) determining various characteristics of concrete systems (for example, neutron flux distribution usually with a low power constant of about 1 watt). Electronic equipment for the control and shielding system of a similar reactor should possess adequate sensitivity and operate quickly and reliably during low neutron flux. Primarily, this is combined with a

Card 1/2

ACCESSION NR: AP4020333

low lifetime of instantaneous neutrons in fast reactors (10^{-8} to 10^{-7} sec.), which determines a special hazard of the lowest excesses of an effective fraction of delayed neutrons. This is low ($\sim 0.22\%$) in fast reactors with plutonium fuel, specifying a choice of the impulse system of electronic equipment having sensitive detectors of neutrons - proportional counters filled with BF_3 in a paraffin moderator. A similar system is highly sensitive, sufficiently stable and insensitive to residual γ -radiation. To ensure reliability, the electronic equipment is developed in 3 independent channels. Two of them were intended for safety systems and power level control. The third channel is for measuring and recording the power level. It is also introduced into the safety system schematic and duplicates the work of the basic safety channels. The purpose of all the channels is control of the operable condition developed in the schematic of the warning signalling system and the safety system. The feed devices are supplied by electronic stabilization. Orig. art. has: 1 figure.

ASSOCIATION: None

SUBMITTED: 16Aug62

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: NP

NO REF SOV: 003

OTHER: 001

Card 2/2

NESTEROV, V.G.; BLYUMKINA, Yu.A.; KAMAYEVA, L.A.; SMIRENNIN, G.N.

Angular distribution of fragments in U²³⁵ and Pu²³⁹ fission
by 0.08 to 1.25 Mev. neutrons. Atom. energ. 16 no.6:519-521
Je '64. (MIRA 17:7)

L 35350-66 EWT(m)/T IJP(c)

ACC NR: AR6017797

SOURCE CODE: UR/0058/66/000/001/A047/A047

AUTHOR: Bagdasarov, R. E.; Blyumkina, Yu. A.

TITLE: Electronic device for registration of neutrons with a borated liquid scintillation detector against a large background of extraneous pulses

SOURCE: Ref. zh. Fizika, Abs. 1A422

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron. T. 1. M., Atomizdat, 1964, 53-68

TOPIC TAGS: scintillation detector, neutron detector, boron compound, pulse analyzer

ABSTRACT: The authors consider the operating principle of a borated liquid scintillation detector, intended for the registration of neutrons with energy of the order of several kev by the time-of-flight method. Along with the pulses due to the neutrons, such a detector usually generates pulses which are considerably larger in amplitude and are due to γ quanta. The maximum pulse-amplitude ratio of the γ -quanta and the neutrons is in this case ~ 300 ($E_{\beta \text{ max}} \approx 3 \text{ Mev}$), and the quantitative ratio of the different types of pulses from one neutron detector is as follows: 50 - 200 pulses/sec from neutrons, $\sim 5 \times 10^3$ pulses/sec from the γ background, and (5 - 10) $\times 10^3$ pulses/sec from the photomultiplier noise. A detailed description is presented of an electronic circuit which makes it possible to separate the pulses due to the neutrons from the pulses due to the γ background and the photomultiplier noise. Schematic diagrams are presented of separate units of the apparatus and the procedure for their adjustment is described. L. S. [Translation of abstract]

SUB CODE: 09, 20
Card 1/1 *hkh*

ELYUMER, G.N.; VAKHROMEYEV, G.S.; FOMIN, M.M.

Using geophysical methods in prospecting for carbonatite deposits.
Biol.nauch.-tekh.inform.VIMS no.1:28-32 '60. (MIRA 15:5)

1. Kontora "Vostsibneftegeofizika" Urkutskogo geologicheskogo upravleniya.
(Prospecting---Geophysical methods) (Rocks, Carbonate)

BLEUMOV, S., pilot pervogo klassa.

Clocks and slide rules. Grashd.av.13 no.11:27 N '56. (MIRA 10:2)
(Aeronautical instruments)

BLYUMOVICH, M., starshiy inzh.

Introducing industrial building methods into rural construction in the Altai. Sel' stroi. 15 no.1:6-7 Ja '61. (MIRA 14:3)

1. Byuro tekhnicheskoy pomoshchi Glavnogo upravleniya stroitel'stva Ministerstva sel'skogo khozyaystva RSFSR.
(Altai Territory--Precast concrete construction)
(Farm buildings)

BLYUMOVICH, S.A.; SILLER, R.A.; ANISHCHENKO, F.P.

New achievements of the collective of communist labor. Put' i
put.khoz. 7 no.9:2-5 '63. (MIRA 16:10)

1. Nachal'nik Tartuskoy distantzii puti Pribaltiyskoy dorogi (for
Blyumovich). 2. Sekretar' partiynoy organizatsii st. Tartu,
Pribaltiyskoy dorogi (for Siller).

BLYUMOVICH, S.A.; PYAKHKLAMENTS, A.Yu. [Pakhlamets, A.]; KARASEV, I.M.;
IVANOV, Ye.I.

Work became less strenuous but labor productivity increased.
Put' i put. khoz. 9 no.11:39-40 '65. (MIRA 18:11)

1. Nachal'mik Tartuskey distantzii Pribaltiyskoy dorogi
(for Blyumovich). 2. Starshiy inzh. Tartuskey distantzii
Pribaltiyskoy dorogi (for Pyakhklamets). 3. Starshiye dorozhnyye
mastera Tartuskey distantzii Pribaltiyskoy dorogi (for Karasev,
Ivanov).

SHUL'GINA, Ye.M.; ARUTYUNOVA, A.Kh.; BLYUMSHTEYN, A.Ye.

Improving the method for determining the hydrogen sulfide content
in gases. Nefteper. i neftekhim. no. 3:26-29 '64. (MIRA 17:5)

1. Novo-Bakinskiy neftepererabatyvayushchiy zavod.

REF ID: A66000
 EWP(1)/EWP(2)/EWP(3)/EWP(4)/EWP(5)/EWP(6)/EWP(7)/EWP(8)/EWP(9)/EWP(10)/EWP(11)/EWP(12)/EWP(13)/EWP(14)/EWP(15)/EWP(16)/EWP(17)/EWP(18)/EWP(19)/EWP(20)/EWP(21)/EWP(22)/EWP(23)/EWP(24)/EWP(25)/EWP(26)/EWP(27)/EWP(28)/EWP(29)/EWP(30)/EWP(31)/EWP(32)/EWP(33)/EWP(34)/EWP(35)/EWP(36)/EWP(37)/EWP(38)/EWP(39)/EWP(40)/EWP(41)/EWP(42)/EWP(43)/EWP(44)/EWP(45)/EWP(46)/EWP(47)/EWP(48)/EWP(49)/EWP(50)/EWP(51)/EWP(52)/EWP(53)/EWP(54)/EWP(55)/EWP(56)/EWP(57)/EWP(58)/EWP(59)/EWP(60)/EWP(61)/EWP(62)/EWP(63)/EWP(64)/EWP(65)/EWP(66)/EWP(67)/EWP(68)/EWP(69)/EWP(70)/EWP(71)/EWP(72)/EWP(73)/EWP(74)/EWP(75)/EWP(76)/EWP(77)/EWP(78)/EWP(79)/EWP(80)/EWP(81)/EWP(82)/EWP(83)/EWP(84)/EWP(85)/EWP(86)/EWP(87)/EWP(88)/EWP(89)/EWP(90)/EWP(91)/EWP(92)/EWP(93)/EWP(94)/EWP(95)/EWP(96)/EWP(97)/EWP(98)/EWP(99)/EWP(100)

WH/VN/JC

ACCESSION NR: APJ012325

UR 0286 166 166 166 166 166

AUTHOR: Blyumshcheyn, Z. G.; Cherepanov, V. S.; Miftakhov, E. Z.; Spasnyy, A. G.;
 Pomin, H. A.; Koroleva, H. P.

TITLE: Temperature sensing system for manometric thermometers. Page 42, No. 166520

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1964, 6

TOPIC TAGS: thermometer 14

Translation: A patent has been issued for a temperature system used in manometric thermometers. The unit contains a temperature bulb and a capillary tube. In order to expand the upper measurement limit, the filler which is used is an alloy containing 66.8-67.2% gallium, 20.1-20.7% indium and 12-13% tin and the bulb is made of a material which is stable with respect to the filler at high temperatures, e. g. aluminum or another ceramic or cermet material based on quartz. 15

Card 1/2

L 40760-65

ACCESSION NR: AP5012325

ASSOCIATION: Tsentral'noye proyektno-konstruktorskoye byuro teploenergeticheskogo priborostroyeniya (Central Planning and Design Office of Heat and Power Engineering Equipment)

SUBMITTED: 00

ENCL: 00

SUB CODE: TD

NO REF SOV: 000

OTHER: 000

JPRS

Card 2/2 *m.b*

BLYUMSHTRYN, Z.N., prof. (Kazan')

History of the discovery of radium. Kaz.med.zhur. 40 no.4:97-100

Jl-Ag '59.

(RADIUM)

(MIRA 13:2)
(CURIE, MARIE SKLODOWSKA, 1867-1934)

S/081/60/000/013(II)/001/004
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 13 (II), p. 648,
54905

AUTHOR: Blyumshteyn, Z.N.

TITLE: Radioactive Plastics¹⁹ (Preliminary Information)

PERIODICAL: Kazansk. med. zh. 1959, No. 5, pp. 96-97

TEXT: The introduction of radioactive substances into plastics makes it possible to obtain emitters of various dimensions, shape and intensity. When introducing uranium salts (polymethylmethacrylate) into the plastics, transparent homogeneous materials are obtained which emit at a strictly constant rate. They are used as standards for establishing operational conditions of computing tubes, electrometers etc. Radioactive plastics for medical treatment are obtained by introducing Co^{60} in the form of salts. It is recommended to prepare plastics containing Co^{60} , in the form of plates of different shape and thickness which will be applied to tumors. The treatment of some surface tumors requires the use of thin (0.2 - 0.3 mm) flexible films which do not change during

Card 1/2

Radioactive Plastics (Preliminary Information)

S/081/60/000/013(II)/001/004
A006/A001

sterilization, treatment with water and alcohol. They are obtained from sulfochlorinated polyethylene into which radio-isotopes with a long half-life period (Sr^{90}) are introduced. This is important in respect to the multiple use of the films. P^{32} was also introduced into sulfochlorinated polyethylene films (in the form of Na_2HPO_4). It was established by the introduction of non-radioactive Sr, Co and other salts that the distribution of the salts in the plastics was sufficiently uniform. 15 ✓

E. Tukachinskaya

Translator's note: This is the full translation of the original Russian abstract.

ASS. : CH. Biol. & PHYS. CHEM. KAZAN
MED. INST

Card 2/2

COMMON ELEMENTS																		COMMON VARIABLES																	
REF ID: A7474																		PAGES AND PAGES THIS PAGE																	
-13C																		H-3																	
<p>Zak River mineral springs. E. N. Blinn, Jr. (Sol. Mem. State Univ. Kansas, 1933, No. 2, p. 203).—An extensive investigation is given of the history, geology, and hydrogeology of a no. of springs on the left bank of the R. Kan., near its confluence with the R. Kansa. The physical properties of the waters (for solid and gas) are given, and conductivity and radioactivity data are recorded. R. T.</p>																																			
A.S.M.-I.A. METALLURGICAL LITERATURE CLASSIFICATION																																			
E-2-1111-1111																																			
LARGE NO.																		SMALL NO.																	
LARGE NO.																		SMALL NO.																	

BLYUMSHTEYN, Z.N. (Kazan')

Broadening M.G. Kurlov's formula for representing mineral water analyses.
Vop. kur., fizioter. i lech. fiz. kul't. 26 no.6:554 N-D '61.

(MIRA 15:1)

(MINERAL WATERS...ANALYSIS)

YEREMEYEV, P.V.; KHOLOPOV, I.I.; BLYUS, V.G.

Experimental pipelining of a gas and oil mixture from the Zamankul field to the central jack plant. Nefteprom. delo no.12:35 '63.
(MIRA 17:4)

1. Neftepromyslovoye upravleniye "Guzhanef't".

CHEREPAKHIN, N.D., inzh.; BRODSKIY, Ye.A., inzh.; BLYUSHKE, R.G., inzh.

Supplying electricity to the 650 mill of the Nizhniy Tagil
Metallurgical Combine. Nov.tekh.mont.i spets.rab.v stroi. 21
no.11:11-15 N '59. (MIRA 13:2)

1. Trest Tagilstroy.
(Nizhniy Tagil--Rolling mills) (Electric power distribution)

VETUKOV, M.M.; BLYUSHTEN, M.L.; PODDYMОВ, V.P.

Vapor elasticity and the decomposition of molten $\text{NaF} - \text{AlF}_3$
systems. Izv.vys,ucheb.zav.; tsvet.met. 2 no.6:126-133
'59. (MIRA 13:4)

1. Leningradskiy politekhnicheskoy institut. Kafedra elektro-
pirometallurgii tsvetnykh metallov.
(Aluminum--Electrometallurgy) (Vapor pressure)

L 6721-65 EWT(d)/EEC-l/ERD-2 Pb-l/Po-l/Pq-l/Pg-l/Pk-l IJP(c)/AFETR/ASD(d)/SSD/
AFTC(p)/AMD/RAEM(i)/ASD(a)-5/ESD(dp)/ESD(t)/RAEM(t) GO/BB
ACCESSION NR: AP4042196 S/0020/64/157/002/0295/0298

AUTHORS: Elyusin, A.A.

TITLE: Problem concerning the distributor which optimizes along a segment

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 295-298

TOPIC TAGS: optimal flux distribution, cybernetics, control theory

ABSTRACT: This communication deals with some problems of optimal distribution of a given flux which enters a system, and is distributed in it in n directions. Such distribution of the flux is mathematically described by n functions of time $u_i(t)$, $i = 1, \dots, n$, satisfying the condition $\sum_{i=1}^n u_i(t) = 1$, $u_i(t)$ is the fraction of the flux in the i direction at the time t . The author calls the set of functions $u(t)$ the distributor. The solution of the problem is not unique, unless additional conditions are imposed. art. has: no figures

ASSOCIATION: None

Card 1/2

BIYUSKIN, Ye. M., inzh.; IL'IN, R.A., inzh.; PANKRATOV, V.P., inzh.

Operation of equipment subjected to boiler inspection without
accidents. Bezop. truda v prom. 3 no.6:29-30 Je '59.
(MIRA 12:10)

1.Dolgoprudnenskiy zavod krasiteley.
(Industrial safety)

BLYUSS, A.I.

Machinery equipped reservoirs for storing bitumen in asphalt
concrete plants. [suggested by A.I. Blyuss]. Rats. i izobr. predl.
v stroi. no. 4:25-27 '57. (MIRA 11:8)
(Bitumen--Storage)

KHODAK, P.A.; RUVINSKAYA, I.N., Blyuss, TS.M.

Utilizing spent alkali in the thylx process for gas purification.

Gaz.prom. 4 no.8:17-18 Ag '59.

(MIRA 12:11)

(Gorlovka--Gas purification)

BLYUVSHTEYN, D.A.

Transparent film instead of tracing paper. Trans. stroi. 13
no.8:68-69 Ag '63. (MIRA 17:2)

1. Nachal'nik ekspeditsii Gosudarstvennogo proyektno-
izyskatel'skogo instituta Gosudarstvennogo proizvodstvennogo
komiteta po transportnomu stroitel'stvu SSSR.

L 17744-63

EWB(j)/EPF(c)/EWT(m)/BDS

Pc-4/Pr-4

RM/WW

ACCESSION NR: AP3006222

S/0152/63/000/007/0049/0054

AUTHORS: Ismailov, R. G.; Kormeyev, M. I.; Kagramanova, A. S.;
Vayner, L. Z.; Blyuvshstein, S. S.

TITLE: High-temperature reforming of ligroin - raw material
reserve for soft chemistry

SOURCE: IVUZ. Neft' i gaz, no. 7, 1963, 49-54

TOPIC TAGS: ligroin, ligroin reforming, ethylene, propylene,
butylene, petroleum

ABSTRACT: Authors investigated the means of obtaining new raw materials for the petroleum industry which differ from the gases presently obtained by the destructive distillation of petroleum. It is known that high temperature cracking at low pressures gives a higher yield of gas and therefore, the experiments of a semi-productive nature were set on the basis of high temperature reforming, using ligroin as a raw material. Maximum yield of ethylene, propylene, and butylene is obtained at a temperature of 625C and reaction

Card 1/2

L 17744-63

ACCESSION NR: AP3006222

time of 10 sec. This temperature is the optimum temperature for ethylene and propylene yields as well as for the production of benzene with an octane number of 74 - 74.6. The yield of gas was 13 to 27%, depending on temperature, against 5-7% at ordinary thermocracking. The yield of unsaturated C_2 , C_3 , C_4 was 4.7 to 9.2%, depending on the raw material as compared to 1 to 1.4% at ordinary and combined thermocracking. The largest yield of butylene was obtained at 610C. It is necessary to add a wood tar antioxidant (0.1%) for the chemical stabilization of benzene and for the improvement of its properties and to compound it with low activity benzene of direct distillation and other petroleum benzenes. Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: Azerbaydzhanskiy institut nefti i khimii im. M. Azizbekova (Azerbaydzhan institute of petroleum and chemistry); BNZ im. XXII s"ezda KPSS (BNZ named for 22nd congress of Communist Party of the Soviet Union)

SUBMITTED: 11Oct62

DATE ACQ: 23Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 000

OTHER: 000

Card 2/2

ISMAILOV, R.G.; KORNEYEV, M.I.; KAGRAMANOVA, A.S.; VAYNER, L.Z.;
BLYUVSHTEYN, S.S.

High-temperature reformed ligroine as a raw material for
big chemistry. Izv. vys. ucheb. zav.; neft' i gaz 6 no.7:
49-55 '63. (MIRA 17:8)

1. Azerbaydzhanskiy institut nefti i khimii imeni Azizbekova
i Bakinskiy neftepererabatyvayushchiy zavod imeni XXII s"yezda
Kommunisticheskoy partii Sovetskogo Soyuz.

BOGDANOVICH, Oleg Vyacheslavovich; RINKEVICHYUS, Viktoras Vintseвич
[Rinkevicius, V.V.]; DAVIMAS, L.[translator]; BLYUVSHTEYNAS, Yu.
[Bliuvshsteinas, J.], red.; MUNITSAS, B., tekhn. red.

[Concise address and reference book of Vilnius as of July 1, 1960]
Kratkaia adresno-spravochnaia kniga po sostoiianiiu na 1 iulia 1960
goda. Vil'nius, Profizdat LRSPS, 1960. 253 p. (MIRA 14:12)

1. Vil'na, Upravleniye mestnogo khozyaystva.
(Vilnius--Directories)

BLYUYER, N.V.

DECEASED

SEE ILC

Chemistry

BLYUYER, V.A.

BLYUYER, V.A., kandidat tekhnicheskikh nauk.

Remarks on A.P. Khazanov's article. Tekst.prom. 14 no.6:53 Je '54.
(MLRA 7:7)

1. Dotsent ITI
(Textile schools)

BEYUYER, V.A., dotsent, kandidat tekhnicheskikh nauk.

Operation of the friction gear of a sizing machine. Tekst.prom.
14 no.12:20-23 D '54. (MLRA 8:2)
(Textile machinery)

NIKIFOROV, S.I.; ~~BLINYER, V.A.~~ retsenzent; PAVLOVA, M.I., retsenzent;
KAPLEVICH, Ye.I., redaktor; NEMTSOVA, O.I., tekhnicheskii
redaktor

[The planning of cotton weaving factories] Proektirovanie khlopko-
tkatskikh fabrik. Izd. 2-oe, perer. i dop. Moskva, Gos. nauchno-
tekhn. izd-vo Ministerstva legkoi promyshl. SSSR, 1956. 277 p.
(Cotton manufacture) (MLRA 9:10)

GORDEYEV, Vasil'y Aleksandrovich, prof.; VOLKOV, Pavel Vasil'yevich,
dotsent; MARKOV, N.P., retsenzent; ~~BLUYER, V.A., retsenzent;~~
GORITSKIY, S.G., retsenzent; KULIGIN, A.V., retsenzent; SEGAL',
N.M., red.; MEDVEDEV, L.Ya., tekhn.red.

[Weaving] Tkachestvo. Moskva, Gos.nauchno-tekhn.isd-vo lit-ry
po legkoi promyshl., 1958. 550 p. (MIRA 12:3)
(Weaving)

BLYUYER, V.A.

Relation between the dynamic tension of the warp and the parameters
of loom setting (from Dr. Zilahy's article). Izv. vys. uchev. zav.;
tekhn. tekst. prom. no. 5:140-145 '58. (MIRA 11:12)

1. Ivanevskiy tekstil'nyy institut.
(Looms) (Hungary—Textile research)

BLYUYER, V.A., dots.

Constructing diagonal weaves. tekst. prom. 18 no.6:20-24 Je '58.
(Weaving) (MIRA 11:7)

BLYUYER, V.A.

Regulation of the rate of rewinding on bobbin precision
winders. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.2:171-175 '63.
(MIRA 16:6)

1. Ivanovskiy tekstil'nyy institut imeni M.V.Frunze.
(Winding machines)

VOSKRESENSKIY, V.A.; SLY'YEV, V.A.; ORLOVA, Ye.M.

Some correlations in the plasticization of polyvinyl chloride by
nonpolar and polar substances. Zhur. prikl. khim. 34 no.1:225-227
Ja '61. (MIRA 14:1)

(Ethylene)

(Plasticizers)

BLY'YEV, V.A.; VOSKRESENSKIY, V.A.

Problem of plasticization of polyvinyl chloride by the SKH-40
synthetic rubber. Izv.vys.ucheb.zav.;khim.i khim.tekh. 5
no.3:474-476 '62. (MIRA 15:7)

1. Kazanskiy inzhenerno-stroitel'nyy institut, kafedra khimii.
(Vinyl compound polymers)
(Rubber, Synthetic)

BLIZNYUCHENKO, A.G. [Blyzniuchenko, O.H.]

Effect of pituitrin on the motor activity of the uterus in sows.
Fiziol.zhur. [Ukr.] 11 no.4:448-453 J1-Ag '65.

1. Poltavskiy sel'skokhozyaystvennyy institut.

(MIRA 18:10)

L 08653-67 EMT(1)/FCQ GW
ACC NR: AR6020767

SOURCE CODE: UR/0269/66/000/003/0065/0066

AUTHOR: Blyznyuk, M. M.

30

ORG: none

TITLE: Radial drift of radial-reflecting areas of the aurora polaris in Tiksi Bay in 1959

SOURCE: Ref zh. Astron, Abs. 3.51.553

REF SOURCE: Visnyk Kyyivskk. un-tu. Ser. astron., no. 6, 1964, 48-50

TOPIC TAGS: aurora, radio wave

ABSTRACT: The radial drift component is considered of the radio-reflecting areas of the aurora polaris at Tiksi Bay in 1959. One thousand and forty drift cases were analyzed. During the evening hours in winter the radio-reflecting areas at Tiksi Bay moved preferentially from north to south and in the summer from south to north. The opposite was true for the morning hours.

SUB CODE: 04/ SUBM DATE: none

L 08654-67 EMT(1) GW
ACC NR: 122

UDC: 551.594.5

BNADALOVIC, A.

Derricks. Sigurnost. p. S67.

KRMJ S U INFUDYTIJI. (Društvo kemicara-technologa NHR) Zagreb,
Yugoslavia. Vol. 8, no. 9, Sept. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1,
Jan. 1960.

Uncl.

PEVZNER, V.B.; DNATOV, N.A.; PATIK, L.O.

Monitoring and indicating of the passage of scrubbers and
separators along pipelines. Transp. i khran. nefti i nefteprod.
no.5:12-14 '67. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruk-
torskiy institut kompleksoy avtomatizatsii neftyanoy i gazovoy
promyshlennosti.

PEVZNER, V.B.; BNATOV, N.A.; KOSTIN, V.N.; GAPEYEV, S.I.

Author's certificates for Soviet inventions. Stroi. truboprov. 9
no.10:35 0 '64. (MIRA 18:7)

ACC NR: AP7003178

(A, V)

SOURCE CODE: UR/0317/66/000/012/0052/0059

AUTHOR: Bnatov, S. (Engineer; Captain 3d Rank; Candidate of Chemical Sciences; Docent)

ORG: None

TITLE: Corrosion protection

SOURCE: Tekhnika i vooruzheniye, no. 12, 1966, 52-59

TOPIC TAGS: iron corrosion, corrosion inhibitor, corrosion protection, military R and D, surface film, polyethylene plastic, polyethylene sheet, ordnance, equipment storage technique

ABSTRACT: The methods and means used to protect military equipment and armaments against corrosion during storage are discussed. The salient differences between major types of lubricants, such as greases, motor oils, and mineral oils, and their uses, are outlined. Volatile inhibitors have recently come into use in closed or sealed systems and have proven to be very effective for protecting many types of military equipment. NDA is the inhibitor most widely used. The use of polymer films for packaging and covering military products and armaments is discussed. The advantages and disadvantages of other types of films are noted. Orig. art. has: 2 tables.

SUB CODE: 13,15/SUBM DATE: None

Card 1/1

BNATOV, S.A., Cand Chem Sci -- (diss) "Study of the ^{reaction of} ~~reaction~~ of aromatic hydrocarbons ^{by means of} ~~with~~ certain monoalkyl
halides in the presence of activated metallic aluminium."
Len, 1959, 10 pp (Len Order of Lenin State Univ im A.A.
Zhdanov) 150 copies (KL, 35-59, 112)

- 13 -

5(3)

AUTHORS:

Dolgov, A. N., Bnatov, S. A.

SOV/156-59-1-32/54

TITLE:

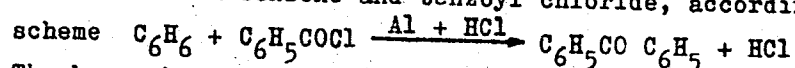
The Synthesis of Benzophenone in the Presence of Metallic Aluminum According to Radziewanowski (Sintez benzofenona v prisutstvii metallicheskogo alyuminiya po Radzivanovskomu)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 127-128 (USSR)

ABSTRACT:

Previous papers (Ref 1, Ref 2, Ref 3) described the use of metallic aluminum in the synthesis of alkyl benzenes. The possibility of the use of aluminum for the synthesis of ketones has hitherto not been investigated. The synthesis was proceeded from benzene and benzoyl chloride, according to the



The benzophenone yield (with a molar ratio $\text{C}_6\text{H}_6:\text{C}_6\text{H}_5\text{COCl}=4:1$) was 71 % of the value theoretically found. The synthesis was carried out at room temperature, higher temperatures caused a decrease in the yield. In this process, substances with higher boiling points formed, which were not investigated. Thus aluminum, in its metallic form, can be used for the synthesis

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The Synthesis of Benzophenone in the Presence of
Metallic Aluminum According to Radziewanowski

SOV/156-59-1-32/54

of aromatic ketones. It has the advantage over aluminum chloride of not being hygroscopic, and of being a very active and most economical catalyst. The experimental results are listed in tables. The example of a laboratory operation is given in detail. There are 2 tables and 4 references, 3 of which are Soviet.

ASSOCIATION: Kafedra organicheskoy khimii Leningradskogo gosudarstvennogo universiteta (Chair of Organic Chemistry of Leningrad State University)

SUBMITTED: September 8, 1958

Card 2/2

5.3200

5(3)
AUTHORS:

TITLE:

PERIODICAL:

ABSTRACT:

Dolgov, B.N., Bnatov, S.A.

Alkylation of Benzene With Monohalogen Alkyls in the Presence of Metallic Aluminum, Activated by Traces of Aluminum Chloride

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 5, pp 714-719 (USSR)

The authors studied the subject mentioned in the title in continuation of earlier studies (Refs 1-3). They succeeded in finding conditions in which the monoalkyl benzene yield is 94% of the used halogen alkyl. They found that due to the activation by aluminum chloride the reaction is very strong even at room temperature and that it is finished within 1.0 - 1.5 h. The reaction mixture heats itself up to 40-50°C. Very small quantities (almost traces) of aluminum chloride replace in this case the temperature shock needed for initiation of the reaction. The HCl forming at the start of the reaction reacts violently with the metallic aluminum. To clarify the role of the metallic aluminum, the authors thoroughly investigated the interaction of benzene with ethyl bromide, n-propyl chloride and n-butyl chloride as well as with iso-butyl chloride, using different quantities of catalyst with dif-

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Alkylation of Benzene With Monohalogen Alkyls in
the Presence of Metallic Aluminum, Activated by
Traces of Aluminum Chloride

ferent molar relations of the reaction components and at different temperatures. They hereby found that the alkylation occurs at a total isomerization of the normal radical to a secondary and a tertiary one. Small quantities of polymers (0.8-1.1% of the condensate weight) formed in every experiment. In contrast to the reactions with the catalyst of Radzivanovsky (Ref 3) the yield of monoalkyl benzenes is increased under optimum conditions with the increase of the molecular weight of the halogen derivatives of C_2H_5Hal to C_4H_9Hal . The yield of the isoamyl benzene is less than that of butyl benzene (Table 1). Among the products with a higher boiling point than that of monoalkyl benzene, they detected di-, tri- and tetra-alkyl benzenes (tetraethyl benzene). As shown by P.G. Sergeev (Ref 10), the formation of polyalkyl benzenes is caused by the thermodynamic condition of the reacting system. The di-alkyl benzenes mainly consist of para- and meta-isomers. With the increase of the molar relation $C_6H_6:R$ the content of para-isomer increases as against the meta-isomer.

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Alkylation of Benzene With Monohalogen Alkyls in
the Presence of Metallic Aluminum, Activated by
Traces of Aluminum Chloride

The quantity of the catalyst of 0.02 - 0.05 g-at Al per 1 g-mol of halogen derivative is sufficient, there even is a little surplus aluminum which may be reused. (M.B. Turova-Polyak and I.P. Davydova, Ref 9). The monoalkyl benzene yields are almost double because the Al is activated by the HCl formed. The 10-15-fold quantity of Al causes little change in the yield of monoalkyl benzene but it causes secondary reactions and reduces the yield in the main product (Table 2). At the increase of the molar reaction benzene : halogen alkyl from 1:1 to 8:1, the yield of monoalkyl benzenes increases with the increased mol quantity of the benzene; this increase is on account of the polyalkyl benzenes which decreased to zero (Tables 3,4). Table 5 shows that the duration of reaction from 2 to 8 h has little influence on the yield in monoalkyl benzenes, but it increases the yield in polyethyl benzenes. The temperature, also, has little influence on the yields. There are 5 tables and 13 references, 10 of which are Soviet. ✓

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Alkylation of Benzene With Monohalogen Alkyls in
the Presence of Metallic Aluminum, Activated by
Traces of Aluminum Chloride

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SOV/153-2-5-13/31

ASSOCIATION: Leningradskiy gosudarstvennyy universitet; Kafedra organicheskoy
khimii (Leningrad State University; Chair of Organic Chemistry) ✓

SUBMITTED: May 31, 1958.

Card 4/4

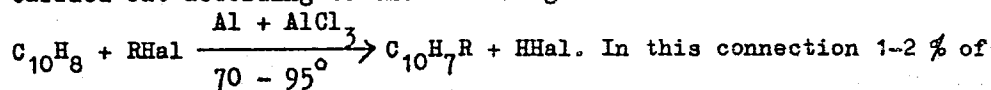
AUTHORS: Dolgov, B. N., Bnatov, S. A.

SOV/79-29-2-47/71

TITLE: New Method of the Synthesis of Alkyl-naphthalenes
(Novyy metod sinteza alkilnaftalinov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 582-584 (USSR)

ABSTRACT: In continuation of earlier papers (Refs 1-3) the synthesis of alkyl-naphthalenes by reacting naphthalene with some alkyl halides in the presence of metallic aluminum, to which some $AlCl_3$ was added as an activating agent, was carried out in this paper. In this respect only syntheses of benzene derivatives have been dealt with in publications (Refs 4-6). The synthesis of alkyl naphthalenes was carried out according to the following scheme:



metallic aluminum and 0.03 - 0.05 % $AlCl_3$ (computed for naphthalene) were necessary. An excess of aluminum and the longer duration of heating led to the formation of polyalkyl-naphthalenes. Ethylbromide, n.-propyl and butyl chloride, isoamyl chloride served as alkylating

Card 1/2

New Method of the Synthesis of Alkylnaphthalenes

SOV/79-29-2-47/71

agents. In the course of this alkylation an isomerization in the alkyl radical was observed with iso and secondary alkyl naphthalenes as main reaction products. For this reason it may be assumed that alkylation in this case takes place through the stage of formation of unsaturated hydrocarbons, as is shown by reaction scheme 2. Such an isomerization was observed by Gustavson and M. I. Konovalov, and others (Refs 7-12). The yield of monoalkylnaphthalenes was up to 65 %. Their structure was proved by their picrates. Their properties are given in a table.-There are 1 table and 16 references, 11 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet
(Leningrad State University)

SUBMITTED: December 27, 1957

Card 2/2

ASHIMOV, M.A.; BNATOV, S.A.

Metallic aluminum as a catalyst of the reaction of benzene
alkylation with olefin mixture. Sbor. nauch.-tekhn. inform.
Azerb. inst. nauch.-tekhn. inform. Ser. Nefteper. i khim. prom.
no.2:24-26 '62. (MIRA 18:9)

BNATOV, S.A.; KALAUSHIN, A.Ye.

Refractometric method for determining the concentration of certain synthetic surfaceactive substances in aqueous solutions. Sbor. nauch.-tekh.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Nefteper. i khim. prom. no.2:34-38 '62. (MIRA 18:9)

L 33089-66 EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(l) WE
ACC NR: AP6024590 SOURCE CODE: RU/0007/65/016/008/0431/0434

AUTHOR: Boaba, A. (Engineer)

ORG: Ministry of Petroleum

TITLE: Directions in the development of the petroleum industry

SOURCE: Petrol si gaze, v. 16, no. 8, 1965, 431-434

TOPIC TAGS: petroleum industry, catalytic cracking, gasoline

ABSTRACT: A summary of the provisions of the Directives of the Ninth Congress of the Rumanian Communist Party with regard to the expansion and development of the petroleum industry in the years 1966 to 1970, as well as a brief review of the achievements during the previous Five-Year Plan. Among the planned items mentioned are new plants for catalytic cracking, hydrocracking, and the production of petroleum and gasoline. [JPRS: 33,544.]

SUB CODE: 05, 21 / SUBM DATE: none

Card 1/1

BOAGIU, A.

At the Enterprise of Prefabrications and Construction Materials,
new prefabricated reinforced concrete elements. St si Teh Duc 14
no.9:40-41 S '62.

1. Chief Engineer, Enterprise of Prefabrications and Construction
Materials, Constanta.

L 30727-66

ACC NR: AP6022116

SOURCE CODE: RU/0018/65/000/009/0493/0499

AUTHOR: Draghici, Ghorman; Obaciu, Gheorghe; Boangiu, Gheorghe

ORG: none

TITLE: Finishing of cast iron with mineral-ceramic plates

SOURCE: Constructia de masini, no. 9, 1965, 493-499

TOPIC TAGS: cast iron, metal finishing, ceramic product, mineral

ABSTRACT: The authors report their experimental results with the use of Rumanian-made mineral-ceramic plates for the fine finishing of cast iron. The optimal operating parameters to be observed during the turning operation are calculated and verified experimentally. Orig. art. has: 21 figures. [Based on authors' Eng. abst.]
[JPRS]

SUB CODE: 13, 11 / SUBM DATE: none / ORIG REF: 002

Card 1/1^f✓

UDC: 669.13:621.941.1.025.7

1655 Simple chromatographic and drop method for deter-
mining sugars on filter paper N. Baskin, J. Am. Chem. Soc.

the solvent a wick (Z—3 cm. long and 1.5 mm. diam.) is inserted in the middle. The paper is divided into 8 equal parts and a portion containing a drop of sugar solution is placed on the wick. After 24 hr. the paper is removed and the wick is dried.

BOARNA, Clara; GIRLESTEAN, Eliza

Supplying power to low-frequency welding machines by pressure.
Studii tehn Timiscara 7 no.3/4:311-320 JI-D '60.

S/137/62/000/006/148/163
A057/A101

AUTHORS: Micloși, V., Boarnă, C.

TITLE: Welding of rails with increased carbon content by intermittent flashing. Second part - a.

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 4, abstract 6E25 ("Studii si cercetări științe tehn. Acad. RPR. Baza Timișoara", 1961, v. 8, no. 1 - 2, 59 - 70, Rumanian; Russian and French summaries)

TEXT: The hardness of the zone of thermal influence after welding and thermal treatment was investigated. The welding was carried out by four methods: A - by continuous flash welding with a length of the flashed off part $l = 20.5$ mm; B - with normal heating (21 pulses) at $l = 11.0$ mm; C - with prolonged heating (40 pulses) at $l = 21.0$ mm; D - with normal heating (21 pulses) at $l = 20$ mm and subsequent normalizing of the butt. Heating current 24,500 a, duration of the pulses in heating 2 seconds, specific pressure of shrinkage 5.4 kg/mm^2 . The normalizing at 800°C during 30 sec. was carried out in the

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A057/A101

Welding of rails with...

clamps of the welding machine at a distance between the clamps of 115 ± 5 mm. The hardness H_{V30} was measured along the longitudinal cut across the butt. In processes A, B and C, zones with a mean hardness 320 - 355 H_V were observed near the seam, i. e. 40 - 50 H_V higher, than of the base metal. In the process D these zones disappeared and the hardness exceeded 320 H_V only at some points, but occasionally hard places were obtained under the clamps. To clear up the effect of the thermal cycle of welding upon the metal of rails, tests were carried out with notched and not notched impact samples. Tests after thermal treatment showed a decrease of the impact force at a temperature below 0°C in comparison with the state after welding. The previous paper see in Referativnyy Zhurnal, Metallurgiya, 1961, 12E59. ✓

Ye. Greyt'

[Abstracter's note: Complete translation]

Card 2/2

MICLOSI, V; GIRLESTEAN, Eliza; BOARWA, Clara

Electric welding through the intermediate fusion of the rods
TOR 47. Studii tehn Timisoara 8 no.3/4:323-342 JI-D '61.

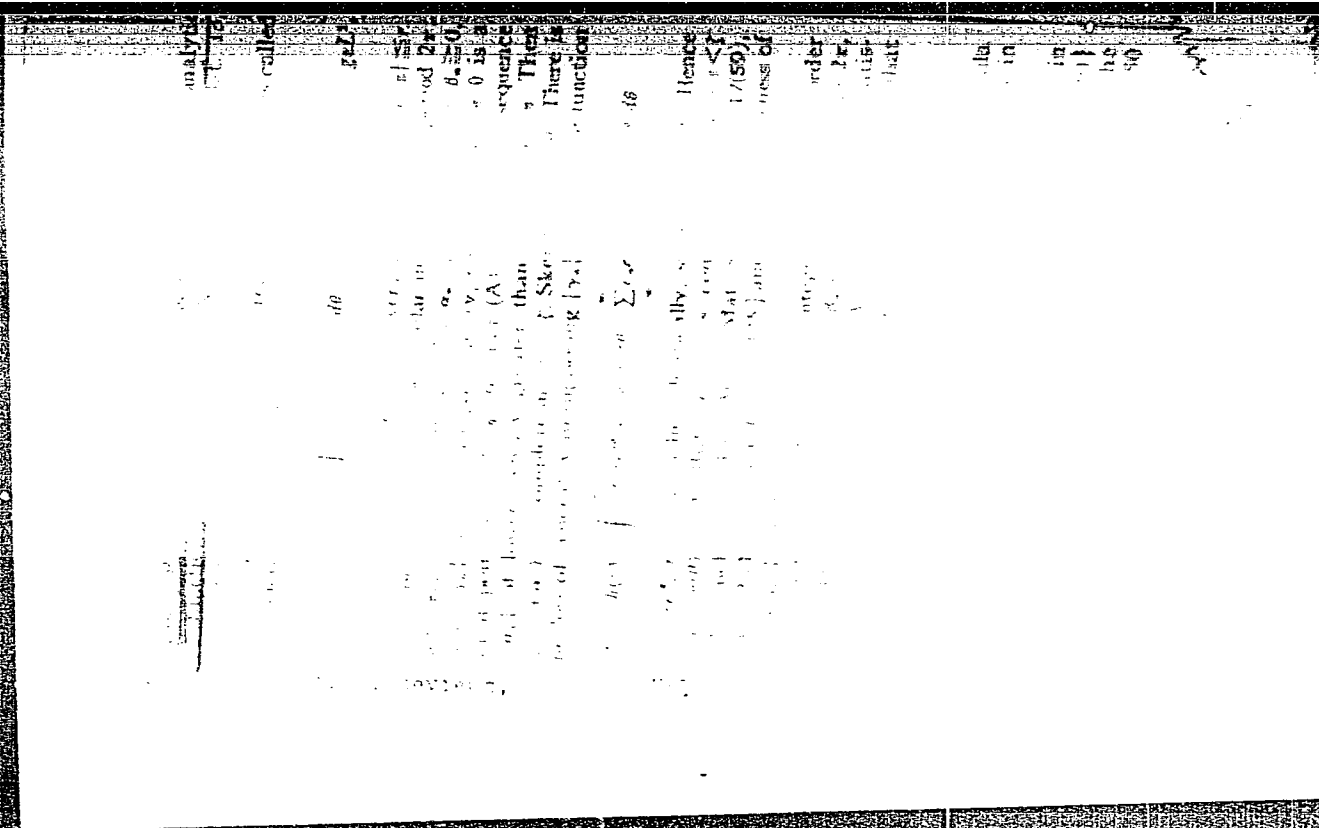
MICLOSI, V., inz.; BOARNA, C., inz.; LOMBARDINI, inz. [translator]

Contribution to the metallurgy of flash welding of railway tracks with higher carbon content. Zvar sbor 11 no.1:45-54 '62.

1. Akademia vied Rumunskej ludovej republiky, Ustredie technickeho vyskumu Timisoara (for Miclosi, Boarna). 2. Vyskumny ustav Fvaracsky, Bratislava (for Lombardini).

MIKLOSI, Corneliu, acad. [deceased]; BOARNA, Clara; MOGA, Simion

Influence of the upsetting force on the mechanical properties
of rails welded by intermediary melting. Constr mas 16 no. 2:
71-74 F '64.



[illegible]

Source: Mathematical Reviews.

Feb 11 1964